

# After-Hours Services in a Prepaid Group Practice

ARNOLD MILES, MD, DDS, and LOUIS J. GOODMAN, MPA

---

*Dr. Miles is the director of the Emergency Service Program of the Health Insurance Plan of Greater New York. He is also instructor of medicine at Albert Einstein College of Medicine in New York City. Mr. Goodman is a PhD candidate in the Medical Care Program at New York University. Mrs. Marcia Kreitzer, statistician of the Emergency Service Program, assisted in the collection and analysis of data.*

*Tearsheet requests to Arnold Miles, MD, 205 West End Ave., New York, N.Y. 10023.*

THE HEALTH INSURANCE PLAN of Greater New York (HIP) is a nonprofit health services corporation with more than  $\frac{3}{4}$  million members. It serves subscribers in five New York City boroughs and several suburban areas through contractual arrangement with 30 multispecialty medical groups organized to provide comprehensive

health services to an enrolled population on a prepaid basis.

Our report is concerned with the operation and utilization of after-hours services by HIP members.

The Emergency Service Program (ESP) is a central body within the HIP structure charged with coordinating several modalities for the delivery of medical services when the medical group centers are closed. In other words, the ESP provides all the after-hours medical services to HIP members residing in the four New York City boroughs (Manhattan, Brooklyn, Bronx, and Queens) at night, on weekends, and on holidays. The provision of after-hours service is structured differently for HIP members residing in areas other than these four boroughs and is not discussed here.

The ESP delivers three major categories of care to this four-borough population: (a) medical advice by telephone, (b) treatment at a hospital-based emergency service center, and (c) home call services by a physician.

According to a U.S. National Health Survey (1) in 1969, 12 percent of all contacts with physicians were made by telephone for an estimated 100 million contacts for that year. Between 1957 and 1969, the number of telephone contacts increased by 1.6 percent. During this same period, the number of home calls recorded decreased 7.9 percent—from 10.2 percent to 2.3 percent based on the total physician contacts recorded in 1969. Again in 1972, this trend continued (2).

HIP has experienced an even greater decline in the utilization rate of home calls, partly because of a growing feeling among HIP physicians that quality medical services cannot be rendered in a subscriber's home. Between 1961 and 1970, the overall utilization rate decreased by 59 services per 100 persons per year; about one-third of this drop (20 visits per 100 persons) was concentrated in the home call category (3).

Several studies have focused on a variety of medical care patterns among users of hospital emergency units (4,5), while other studies have sought to compare patterns of care in the context of social class differentials (6). Torrens and Yedvab (7), assessing the role of the emergency room as a source of ambulatory medical care, discussed "the appropriateness of the emergency room for the treatment of a particular episode of illness for the patient." Concurrently, Noble and co-workers

(8) have analyzed the effects of "ritualistic and meteorological factors" on hospital emergency unit utilization.

The Chicago experience has been documented by Anderson and Kravits (9) in their source book on the use of data. Several findings regarding the provision of home call services deserve particular attention. "In Chicago, home visits to welfare families are almost impossible to obtain since even the private physicians who treat welfare recipients will not come into their neighborhoods at night."

Elford and co-workers, studying the reasons why home calls are made, found that several interacting factors (time, age, type of care, diagnostic category, and patient's attitude) affect the decision as to the appropriate site of care. Indeed, "the house call appears to fit meaningfully into the pattern of the (family) physician's total practice" (10).

The Division of Emergency Health Services of the Department of Health, Education, and Welfare recently published "Recommended Standards for Development of Emergency Medical Services Systems" (11,12), which include requirements for (a) ambulance personnel, (b) hospital emergency facilities, (c) communications, and (d) supportive actions.

Other HEW publications deal with physicians' self-preparedness for providing emergency medical care, as well as similar checklist types of reports (13). Similar reports provide general examinations of the effectiveness of emergency service programs, as well as organizational guidelines, qualifications, and recommendations (14,15).

### **Operation of the ESP**

The ESP is made up of five interrelated components acting together to provide emergency and after-hours medical care service to approximately 607,000 HIP members (four-borough enrollment). These components are:

1. Centralized telephone answering service and screening physicians
2. Emergency ambulance service
3. Radio-dispatched system for home visits by physicians
4. Hospital-based emergency treatment centers
5. Central administration, quality control mechanism, and data collection systems to ensure continuity with the services provided by the 30 HIP medical groups operating during the day.

A centralized telephone answering operation

servicing all four boroughs and located in midtown Manhattan lies at the heart of this operation. When the medical group centers close, telephone shunt and tie lines are used to automatically transfer all incoming patient calls for the HIP medical groups to the centralized answering service. The calls are received by one of several telephone operators, who then transcribes specific patient information onto the ESP patient's record, the primary data collection tool. This form includes information on the patient's personal characteristics, HIP medical group identification number, reason for call, medical disposition, and the service times at each step in handling the call. This form is then sent to the appropriate medical group the next morning, where it is reviewed by the medical group director before placement into the patient's medical record.

Once the information on the patient, including the perceived symptoms of the illness, is recorded by a telephone clerk located at the service, the form is relayed to one of several screening physicians according to his caseload at that particular time. If the telephone call is urgent, it is immediately connected to the physician for disposition. The screener is responsible for calling the patient as soon as possible. From a medical standpoint, the screening physician makes the calls according to priority of symptoms.

Table 1 indicates the distribution of calls falling within each time interval between the patient's call and the physician's screening of it. For the 3

months surveyed, May–July 1972, waiting time was held to a minimum. That is, 98 percent of all patient calls were screened by a physician within 60 minutes of receipt. Sixty-nine percent of all patients were able to discuss their medical problem with a physician in 20 minutes or less. There were 20,142 telephone calls from subscribers in this 3-month period. During the Christmas week-end of 1972, however, as a result of an influenza epidemic, 2,792 telephone calls were received over the 4-day period.

The ESP screening physicians must satisfy standards set by their peers on a medical control board. Monitoring and enforcement of these standards is a joint function of the ESP medical director and the HIP group medical directors. Physicians participating in this program are required to have a minimum of 3 years' training in internal medicine, and the majority are either board eligible or board certified (90 percent). During holidays and other peak volume periods, a pediatrician, a general surgeon, or a psychiatrist may be enlisted to receive selected incoming patient calls. In addition, nurse clinicians with emergency room experience are now being trained to screen alongside of the screening physicians. Three physicians are staffed during the week, while on weekends and holidays up to six may be scheduled, depending upon the anticipated volume of incoming patient calls.

Initial incoming calls may be handled in several ways, as determined by the screening physician for each episode of care. In effect, the screening physician, who is essentially a triage agent, disposes of each case sequentially, according to the following three levels of care:

1. Initial screening and advice over the telephone
2. Referral of the patient to a hospital-based emergency treatment center located in the patient's borough, the hospital then being telephoned by an ESP physician or operator
3. Authorization for the dispatching of a home call physician by radio.

The link between the ESP, which is administered centrally, and the HIP Medical Group is provided by each group's having a roster of "on call" physicians, including specialists. These physicians are contacted whenever specialized care is required for hospitalization of patients who are members of their group.

The establishment of emergency service centers

**Table 1. Distribution of initial incoming calls within various time intervals between patient's call and physician's screening of call, Emergency Service Program, Health Insurance Plan, 4 boroughs of New York City, May–July 1972**

Time interval (minutes)	Patients' calls		Cumulative percent
	Number	Percent	
10 .....	6,936	42	42
10–20 .....	4,448	27	69
21–30 .....	2,572	15	84
31–61 .....	2,362	14	98
61–90 .....	302	2	100
91 and over .....	90	..	..
Total .....	16,710	100	..

**Table 2. Distribution of patients in Emergency Service Program, Health Insurance Plan, 4 boroughs of New York City, May–July 1972, by sex**

Age (years)	All patients		Male patients		Female patients	
	Number	Percent	Number	Percent	Number	Percent
Under 1.....	604	3	356	4	332	3
1–5.....	2,820	14	1,425	16	1,327	12
6–14.....	3,223	16	1,692	19	1,438	13
15–24.....	2,619	13	1,069	12	1,549	14
25–44.....	3,827	19	1,425	16	2,433	22
45–65.....	4,028	20	1,781	20	2,102	19
Over 65.....	2,820	14	1,158	13	1,770	16
Unknown.....	201	1	.....	.....	111	1
<b>Total.....</b>	<b>20,142</b>	<b>100</b>	<b>8,906</b>	<b>100</b>	<b>11,062</b>	<b>100</b>

NOTE: Sex of 174 persons unknown.

in the boroughs is still largely in the developmental stages. Basically, these facilities occupy a suite of medically equipped offices adjacent to or near a hospital emergency room. They are staffed with a clinician (board-eligible or board-certified internist), a licensed practical nurse and an X-ray technician. They have X-ray, laboratory, and ECG equipment, as well as primary medical care supplies. These centers, by their nature, are not equipped for specialized medical or surgical care so that the ready availability of a hospital emergency room is a necessity. In Queens, the ESP uses the emergency room of a HIP hospital; thus, it has a fully integrated service for its emergency treatment service.

### Organizational Structure

The particular mix of services for each borough is determined by a committee consisting of one representative from each participating medical group located in that borough and two representatives from HIP. It is the responsibility of each committee to establish policies for administration of the program in accordance with three standards: (a) implementation of facility and personnel planning, (b) cost allocations, and (c) regularized and functional reporting on performance and operational procedures.

As an ancillary to the ESP borough committee, ESP consumer councils, made up of enrollee representatives from each medical group, have been mandated by the HIP Board of Directors. Representatives to the council are elected by the enroll-

ees of each medical group, and they serve as advisory bodies of concerned consumers for HIP-ESP medical care services. Regular meetings are held with these councils at which subscriber complaints and suggestions for improvement in the services are discussed, and when possible, appropriate action is taken.

### Disposition of Patients

During the quarter studied, 55 percent of the patients were female, and there were more patients in the category of females aged 25–44 than in any other category (table 2).

Table 3 shows the distribution of patients by each category of disposition tabulated under the current reporting cycle of data collection. A data reporting system has been in operation since January 1972 to provide the information necessary for determining patterns of delivery and their concomitant fluctuations.

Medical advice by telephone is the predominant disposition among the three major categories of services delivered. A significantly high number of patient contacts by telephone are for reassurance, medical advice, or "to speak to a physician."

### ESP Questionnaire Survey

To determine the satisfaction with the services provided by the ESP, three waves of color-coded questionnaires were mailed to enrollees of the HIP participating medical groups who used the ESP during the study period (May–July 1972). Although similar in content, distinct question-

**Table 3. Distribution of patients in Emergency Service Program, Health Insurance Plan, 4 boroughs of New York City, May–July 1972, by disposition**

Disposition <sup>1</sup>	All patients	
	Number	Percent
Medical advice by telephone . . .	8,258	41
Emergency treatment center referral . . . . .	7,050	35
Home call authorization . . . . .	2,618	13
Other <sup>2</sup> . . . . .	1,007	5
Not recorded . . . . .	1,209	6
<b>Total</b> . . . . .	<b>20,142</b>	<b>100</b>

<sup>1</sup> In 3 boroughs, 18 percent of the dispositions are by home call authorizations, but in Queens patients are encouraged to use the HIP hospital-based emergency treatment center, and only 1 percent of the dispositions are by home call authorizations.

<sup>2</sup> Referral to an "on call" HIP Medical Group specialist, to a hospital, emergency referral to the New York City police emergency ambulance, or independent decision by patient.

naires are routinely mailed to patients according to the category of disposition indicated on the screening physician's form, that is, telephone advice, emergency center referral, or home call service. The questionnaires, apart from their obvious value as a medical-sociological tool, provide a direct patient feedback mechanism.

### Discussion

The Emergency Service Program of the Health Insurance Plan illustrates how a prepaid group practice can manage the after-hours care of its patients. The program abides by all the recommended standards set by the Department of Health, Education, and Welfare for emergency service programs.

After-hours emergency problems are handled in the same way as day time emergencies, by ambulance transportation to a hospital emergency room, while nonurgent after-hours problems may be dealt with to a large extent—41 percent—by telephone advice only and to a lesser extent—13 percent—by home calls dispatched (table 3).

The high percentage of telephone advice in the ESP indicates a different pattern in the delivery of medical care by day and by night. The high

home-call utilization rate indicates that this method of delivery of medical care is a function of the time of day; it can be explained in part by factors such as the patients' unwillingness to travel at night, the unavailability of transportation, and family members who would have to be left unattended at home if the adult member went out for treatment.

### REFERENCES

- (1) U.S. National Health Survey: Volume of physician visits. PHS Publication No. 1000, Ser. 10, No. 49. U.S. Government Printing Office, Washington, D.C., 1969.
- (2) U.S. National Health Survey: Volume of physician visits. DHEW (HSM) 73-1501, Ser. 10, No. 75. U.S. Government Printing Office, Washington, D.C., 1972.
- (3) HIP statistical report, 1970-1971. The Health Insurance Plan, New York, 1972, pp. 4-6.
- (4) Solon, J., Sheps, C., and Lee, S.: Patterns of medical care: a hospital's outpatients. *Am J Public Health* 50: 1905, December 1960.
- (5) Shortliffe, E. C., Hamilton, T. S., and Noroian, E. H.: The emergency room and the changing pattern of medical care. *N Engl J Med* 258: 2025, Jan. 2, 1958.
- (6) Solon, J. A., and Rigg, R. D.: Patterns of medical care among users of hospital emergency units. *Med Care* 10: 60-72, January-February 1972.
- (7) Torrens, P. R., and Yedwab, D. G.: The impact of emergency services upon patterns of ambulatory care. U.S. Public Health Service, Division of Medical Care Administration, April 1969, p. 52.
- (8) Noble, J. H., et al.: Variations in visits to hospital emergency care facilities: Ritualistic and meteorological factors affecting supply and demand. *Med Care* 9: 415-427, September-October 1971.
- (9) Anderson, O. W., and Kravits, J.: Health services in the Chicago area—a framework for use of data. Center for Health Administration Studies (R.S. 26), University of Chicago, 1968, p. 98.
- (10) Elford, R. W., et al.: A study of house calls in the practices of general practitioners. *Med Care* 10: 173-179, March-April 1972.
- (11) Recommended standards for development of emergency medical services systems. DEHS-4. Department of Health, Education, and Welfare, Health Services and Mental Health Administration, July 1971. 4 pages.
- (12) Huntley, H. C.: How is emergency care in your community? *Emergency Med* 4: 50-55, April 1972.
- (13) Is there a doctor in the house? *Emergency Med* 4: 27, April 1972.
- (14) Huntley, H. C.: How effective are our emergency services. *Hosp Med Staff* 1: 1-10, February 1972.
- (15) Safar, P., et al.: Community-wide emergency medical services. *JAMA* 1704: 133-140, May 13, 1973.